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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,709	07/16/2002	Zwi H Kalman	Kalman-1	4596

28581 7590 06/28/2004

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EXAMINER
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FIORILLA, CHRISTOPHER A

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/049,709	KALMAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Christopher A. Fiorilla	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-16, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/15/02</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

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1. Applicant's election without traverse of Group II, claims 14-21 in the reply filed on 5/10/04 is acknowledged.

2. Claims 1-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 5/10/04.

3. Claims 17-19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 14 recites that each of the first and second phases form three dimensional interconnected networks of each phase. Claims 17-19 each recite that the second phase includes "particles". Particles do not make up an interconnected network, rather they are individual components.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Olry et al. (5,132,169).

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Olry et al. discloses a composite ceramic article comprising first and second phases (e.g. col. 2, lines 67-68) of ceramic material which form three dimensional interconnected networks (e.g. col. 2, lines 55-56) of each phase.

6. Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hong (5,545,337).

Hong teaches a metastable product (e.g. col. 4, line 10) comprising a first immiscible phase of ceramic material (i.e. zirconia) and a second immiscible phase of ceramic material (i.e. yttria) which form a solid solution (e.g. col. 4, lines 2-3). Hong also discloses that this material is used in coatings (see e.g. tables).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olry et al. (5,132,169) in view of Sacks et al. (5,851,942).

Olry et al. discloses a composite ceramic article comprising first and second phases (e.g. col. 2, lines 67-68) of ceramic material which form three dimensional interconnected networks (e.g. col. 2, lines 55-56) of each phase.

Olry et al. does not disclose the grain size of the ceramic materials. Sacks et al. discloses nano-scaled grain sized (i.e. 300 nm -- see e.g. col. 3, line 11) ceramic materials formed from polycarbosilane ceramics such as those used in Olry et al. It would have been obvious to one skilled in the art at the time of the invention to produce ceramic materials have nano-scaled grain sizes in view of the teachings of the precursor materials in Olry et al. to achieve improved material properties (e.g. higher strength).

10. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olry et al. (5,132,169) in view of Wapner et al. (6,706,401).

Olry et al. discloses a composite ceramic article comprising first and second phases (e.g. col. 2, lines 67-68) of ceramic material which form three dimensional interconnected networks (e.g. col. 2, lines 55-56) of each phase.

Olry et al. does not disclose the volume fraction of the second phase, in fact it is silent with respect to the matrix/reinforcement ratio. Wapner et al. discloses a ceramic composite with

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a reinforcement volume percent of 45% (e.g. col. 12, lines 5-12). It would have been obvious to one skilled in the art at the time of the invention to produce ceramic composites having this reinforcement volume present in view of the generic disclosure of Olry et al. to produce a composite with the desired strength.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Fiorilla whose telephone number is (571) 272-1187. The examiner can normally be reached on M-F, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Christopher A. Fiorilla**  
**Primary Examiner**  
**Art Unit 1731**

caf